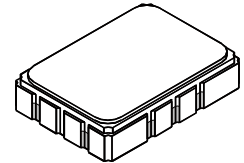


- **Designed for SDARS IF Receiver**
- **Low Insertion Loss**
- **5.0 X 7.0 mm Surface-Mount Case**
- **Differential Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**



SF1141B

**75.00 MHz
SAW Filter**



SMP-03

Absolute Maximum Ratings

| Rating | Value | Units |
|-----------------------------------------|----------------|-------|
| Maximum Incident Power in Passband | +10 | dBm |
| Max. DC voltage between any 2 terminals | 30 | VDC |
| Storage Temperature Range | -40 to +85 | °C |
| Max Soldering Profile | 265°C for 10 s | |

Electrical Characteristics

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------|-----------------------------------|------------|------|-------------------|
| Nominal Center Frequency | f_c | 1 | | 75.000 | | MHz |
| Passband | Insertion Loss at f_c 1dB Passband | 1, 2 | | 12.5 | 16.0 | dB |
| | | | ± 6.35 | ± 7.43 | | MHz |
| | Fast Amplitude Ripple over $f_c \pm 6.35$ MHz | 1, 2, 3 | | | 1.5 | dB _{P-P} |
| | Group Delay Variation over $f_c \pm 6.35$ MHz | | GDV | | 75 | 200 |
| Rejection | $f_c - 100$ to $f_c - 10.95$ and $f_c + 18.8$ to $f_c + 100$ MHz $f_c + 10.95$ to $f_c + 18.8$ MHz | 1, 2, 3 | 40 | 45 | | dB |
| | | | 30 | 36 | | |
| Operating Temperature Range | T_A | 1 | -40 | | +85 | °C |
| Differential Input and Output Impedance | | | 250 ohms | | | |
| Case Style | | 6 | SMP-03 7 x 5 mm Nominal Footprint | | | |
| Lid Symbolization (YY=year, WW=week, S=shift) See note 4 | | | RFM SF1141B YYWWSS | | | |

Electrical Connections

| Connection | Terminals |
|----------------------|------------|
| Port 1 Hot | 10 |
| Port 1 Ground Return | 1 |
| Port 2 Hot | 5 |
| Port 2 Ground Return | 6 |
| Case Ground | All Others |



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

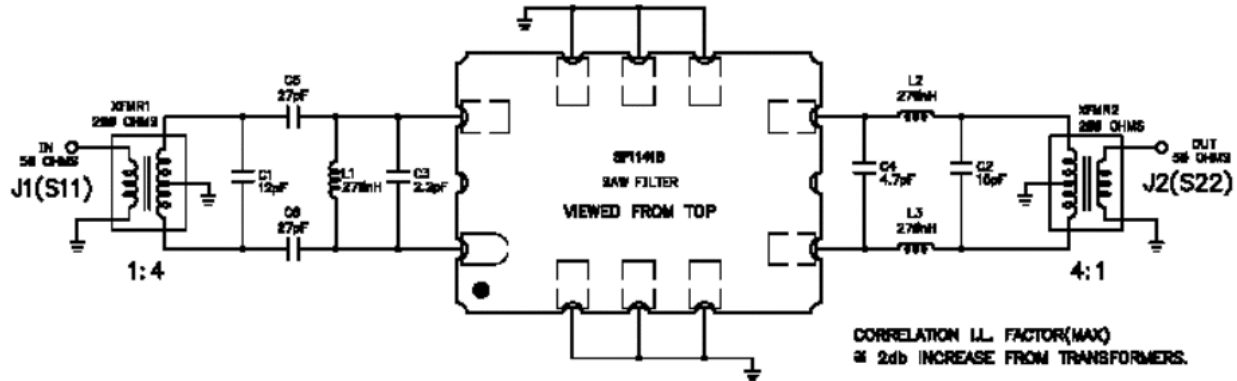
NOTES:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, f_c .
3. The design, manufacturing process, and specifications of this filter are subject to change.
4. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
5. US and international patents may apply.

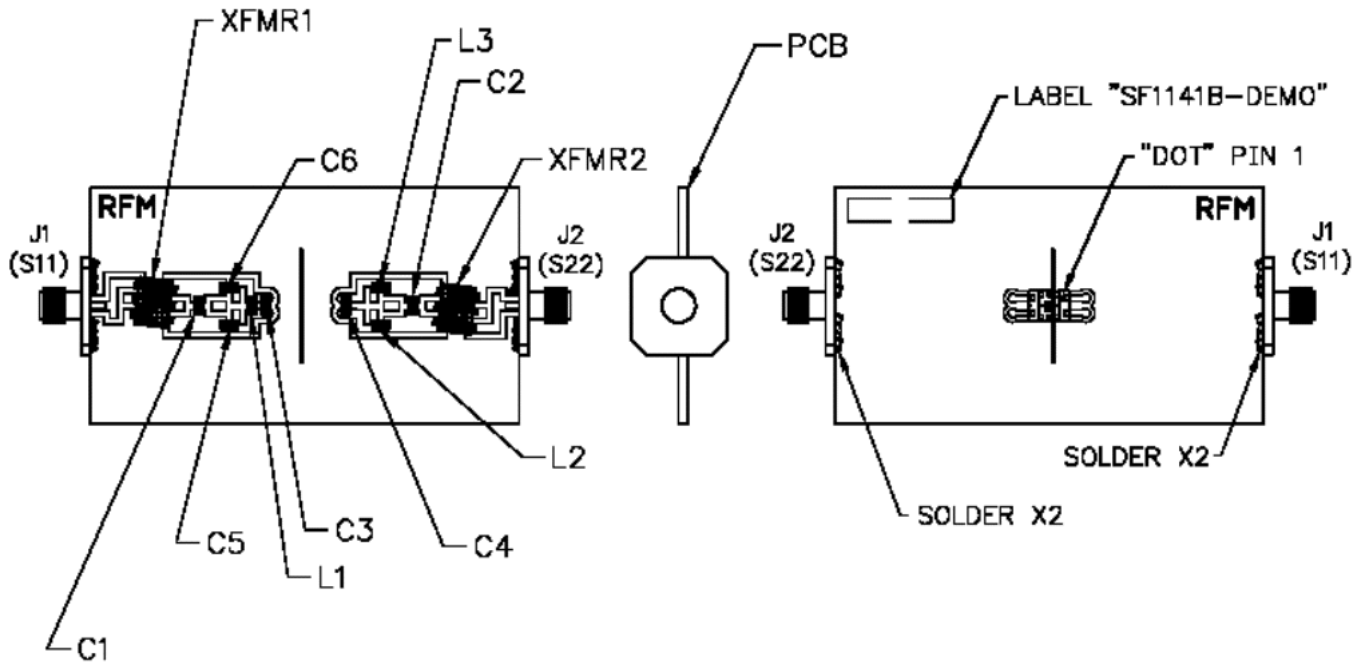
NOTES:

- 1 USE A WRIST STRAP WHEN SOLDERING TRANS 1, AND TRANS 2 TO PCB.
(CUT LEADS .87 IN.)
- 2 MOUNT AND SOLDER ALL COMPONENTS ON PCB.
- 3 CUT CENTER CONDUCTORS FROM J1 AND J2 TO .18 IN.
- 4 MOUNT J1 AND J2 AS SHOWN (SOLDER BACKSIDE ALSO).
- 5 LABEL DEMO BOARD ACCORDINGLY.
- 6 MOUNT "FILTER" ON TOPSIDE OF PCB AS SHOWN.

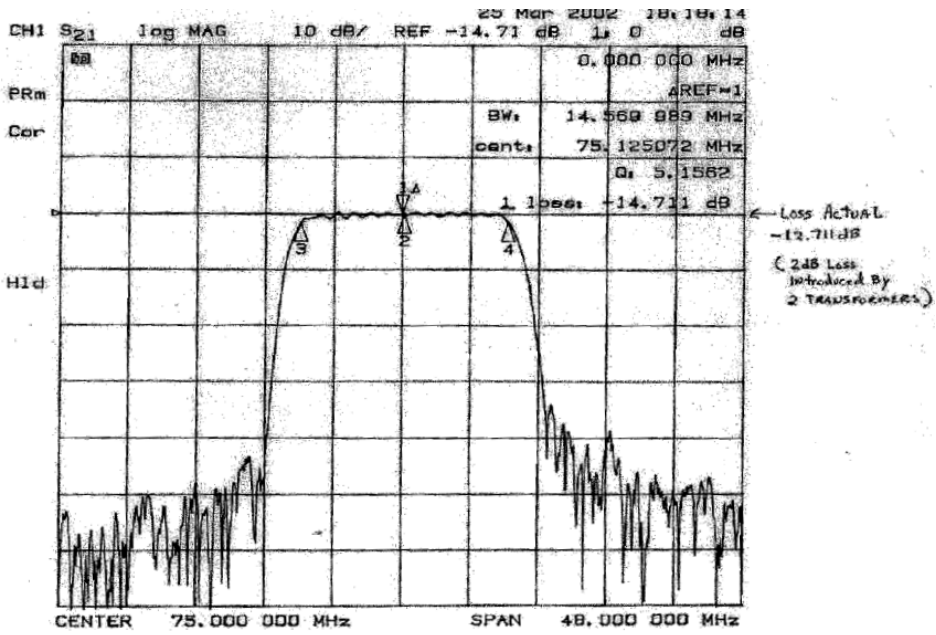
| REV | SIZE | DESCRIPTION | DATE |
|-----|-------|-----------------|---------|
| A | 9248 | INITIAL RELEASE | 11dec88 |
| B | 18658 | REVISED | 30apr92 |
| C | 11676 | REVISED | 28nov92 |



| TITLE | | | | |
|------------------------------------------|----------|-------------|-----|-------|
| ASSY DIAGRAM, DEMO BOARD, SF1141B, S, TD | | | | |
| SIZE | FORM NO. | QWL NO. | REV | SHEET |
| B | 2U874 | SF1141B-100 | C | 1/2 |



| SIZE | FORM NO. | QWL NO. | REV | SHEET |
|------|----------|-------------|-----|-------|
| B | 2U874 | SF1141B-100 | C | 2 |

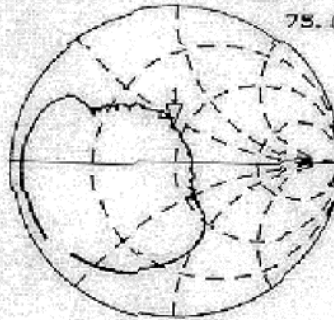


25 Mar 2002 18:20:56

CH1 S₁₁ 1 U FS L: 44.408 n 20.768 n 44.07 nH

PRm 75.000 000 MHz

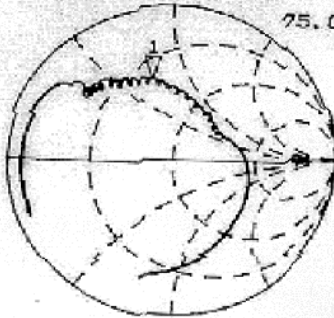
Cor



CH2 S₂₂ 1 U FS L: 23.957 n 34.564 n 73.348 nH

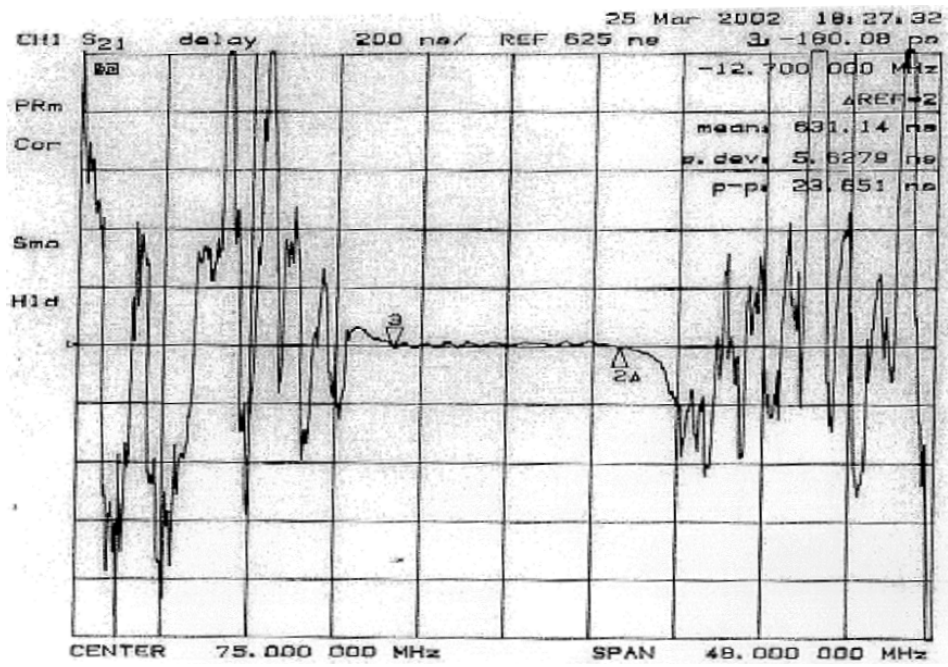
PRm 75.000 000 MHz

Cor

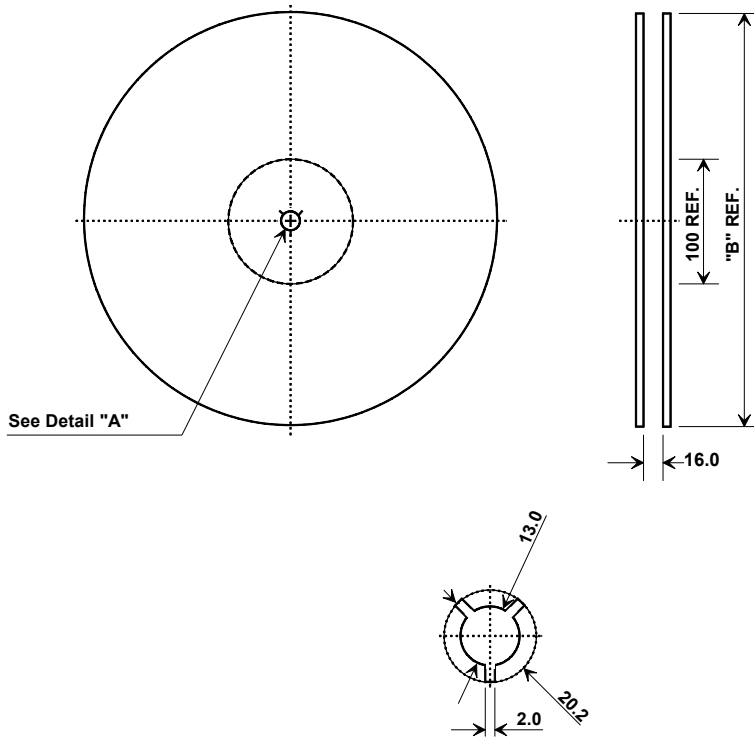


H1d

START 51.000 000 MHz STOP 99.000 000 MHz

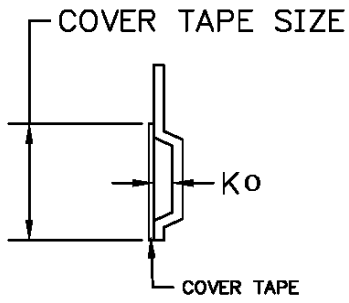


Tape and Reel Specifications

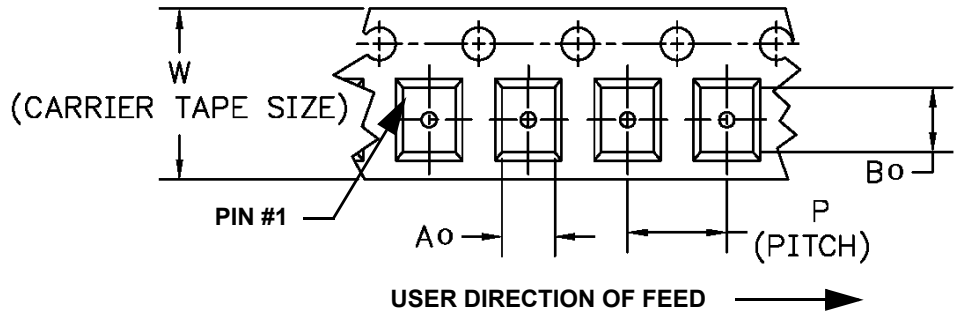


| "B" Nominal Size | | Quantity Per Reel |
|------------------|-------------|-------------------|
| Inches | millimeters | |
| 7 | 178 | 500 |
| 13 | 330 | 2000 |

COMPONENT ORIENTATION and DIMENSIONS

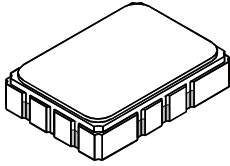


| Carrier Tape Dimensions | | Tolerance |
|-------------------------|---------|-----------|
| Ao | 5.5 mm | ± 0.1mm |
| Bo | 7.5 mm | ± 0.1mm |
| Ko | 2.0 mm | ± 0.1mm |
| Pitch | 8.0 mm | ± 0.1mm |
| W | 16.0 mm | ± 0.2mm |

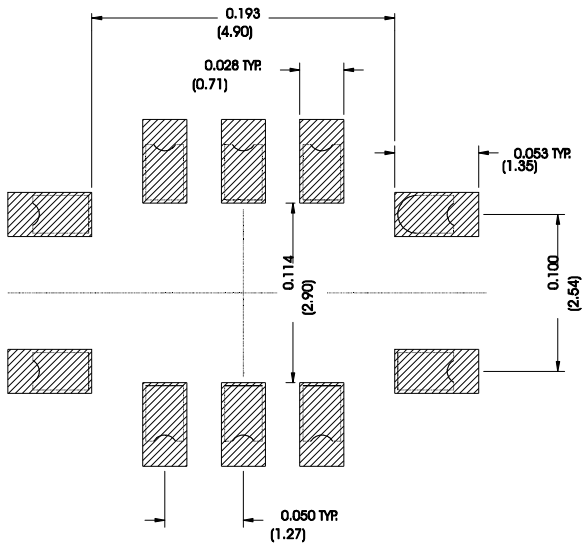


SMP-03 Case

10-Terminal Ceramic Surface-Mount Case 7 x 5 mm Nominal Footprint



Recommended PCB Footprint



| Case Dimensions | | | | | | |
|-----------------|------|------|------|--------|-------|-------|
| Dimension | mm | | | Inches | | |
| | Min | Nom | Max | Min | Nom | Max |
| A | 6.80 | 7.00 | 7.20 | 0.268 | 0.276 | 0.283 |
| B | 4.80 | 5.00 | 5.20 | 0.189 | 0.197 | 0.205 |
| C | | 1.65 | 2.00 | | 0.065 | 0.079 |
| D | .47 | 0.60 | .73 | 0.019 | 0.024 | 0.029 |
| E | 2.41 | 2.54 | 2.67 | 0.095 | 0.100 | 0.105 |
| H | 0.87 | 1.0 | 1.13 | 0.034 | 0.039 | 0.044 |
| J | 4.87 | 5.00 | 5.13 | 0.192 | 0.197 | 0.202 |
| K | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| P | 1.14 | 1.27 | 1.40 | 0.045 | 0.050 | 0.055 |

| Materials | |
|------------------------|----------------------------------------------------------------------------------|
| Solder Pad Termination | Au plating 30 - 60 ulnches (76.2-152 uM) over 80-200 ulnches (203-508 uM) Ni. |
| Lid | Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 ulnches Thick |
| Body | Al ₂ O ₃ Ceramic |
| Pb Free | |

| Electrical Connections | | |
|------------------------|------------------|------------------|
| Connection | | Terminals |
| Port 1 | Input or Return | 10 |
| | Return or Input | 1 |
| Port 2 | Output or Return | 5 |
| | Return or Output | 6 |
| Ground | | All others |
| Single Ended Operation | | Return is ground |
| Differential Operation | | Return is hot |

